

WHITE PAPER

Using SAP Solution Manager to Improve IT Staff Efficiency While Reducing IT Costs and Improving Availability

Sponsored by: SAP

Elaina Stergiades

Eric Hatcher

November 2009

EXECUTIVE SUMMARY

While IT environments grow in size, scale, and complexity, most enterprises increasingly rely on the IT department to support both mission-critical business processes and demanding users on a global scale. In general, enterprises must maintain extensive legacy systems for core business processes while continuing to invest in innovation and new technologies to gain competitive advantage. Balancing all of this in the face of reduced budgets and fewer resources can be challenging for even the most accomplished IT managers.

IDC believes that the advanced tools, utilities, and applications available for software support today can help IT departments navigate these challenging waters. By taking advantage of the automated and proactive functionality available in these tools, IT staff can more easily monitor and manage day-to-day operations in the IT environment. IDC also anticipates that as enterprises implement these advanced applications and make use of the available functionality, they could potentially see additional benefits across the IT environment.

IDC conducted interviews with seven SAP customers to capture their experiences since implementing and using SAP Solution Manager. In addition to asking qualitative questions about how SAP has affected their business, IDC was able to gather data around the benefits of the solution in the following areas: IT staff efficiency, cost reduction, downtime, and user productivity. SAP Solution Manager was integrated with servers that house data and applications for an average of 35,524 users. Key findings from this study are:

- ☒ On average, SAP Solution Manager customers did not have to increase their IT staff sizes to support new activity. This results in an average savings of \$393,307 because the customers avoided new hires. Additionally, the current IT staff is 11% more productive since the deployment.
- ☒ On average, downtime incidents were reduced by 8.4% and hours per incident were cut by 50.8%.
- ☒ The three-year discounted benefit is an average total of \$4,489,438 or \$126,378 per 1,000 users.
- ☒ The results show an aggregate ROI of 463%; the payback period is 4.3 months.
- ☒ Results show that customers using SAP Solution Manager in both small and larger numbers of scenarios achieve an ROI over 200% and payback in less than one year.

SITUATION OVERVIEW

In 2009, IT departments face increasingly complex operations and procedures when managing the day-to-day operations of technology and improving IT service delivery across the enterprise. IT managers are tasked with balancing "keeping the lights on" for ongoing operations with escalating the pace of innovation and expansion to keep up with changing business requirements, as the requirements of line-of-business managers are changing rapidly. In addition, the role of IT has expanded significantly beyond simply managing applications, networks, and technology. Most IT departments are now managing essential compliance and regulatory requirements — potentially resource-intensive tasks for most organizations. All of these demands are growing in the face of increased pressure on IT budgets and resources, which makes for a very difficult challenge for most IT managers.

Challenges Facing IT Environments in 2009

The growing complexity of the IT environment is affecting all aspects of operating policies and procedures across the enterprise. Virtualization is increasing the complexity of traditional infrastructure components such as storage, servers, and networking. At the application layer, most organizations are supporting a tremendous amount of legacy software and applications that must be integrated with newer, more flexible and powerful applications. Even the once static desktop environment is being transformed through the introduction of converged devices, IP phones, and desktop virtualization. While the environment may be stable, it is likely not optimized and does not have the flexibility required for a challenging and dynamic business environment.

At the same time, IT managers are being asked to support mission-critical business processes at very high levels across the enterprise. Line-of-business managers and knowledge workers depend on technology for day-to-day operations, and any system downtime can lead to significant lost revenue — especially for critical customer-facing and revenue-generating technologies. Because of this risk, system downtime is unacceptable for the technologies supporting these business processes — they must remain available at all times to ensure business continuity across the enterprise.

IT departments also require adequate flexibility in their technologies, policies, and procedures to accommodate changing business conditions as quickly as possible. As markets and customer requirements change over time, IT departments must be able to make the changes required by line-of-business managers to ensure the enterprise can maintain and grow their competitive advantage. To accomplish this goal, most IT departments need specific tools and utilities that can manage these changes consistently and coherently to ensure ongoing success in a timely manner.

In addition, IT departments are increasingly tasked with regulations and requirements regarding compliance and auditing. Enterprises now look to IT departments to monitor and report on issues that are closely tied to regulatory and compliance requirements. This means IT is managing additional tools, utilities, applications, policies, and procedures that are necessary to stay in compliance and meet audit and regulatory deadlines. IT is often responsible for providing that information and must be structured to account for the resources needed to manage this information correctly.

Against the backdrop of all these requirements, IT departments are now faced with the reality of a difficult and challenging economic environment. The turmoil that has rocked the global banking system and the resulting instability of the global economy have seriously impacted IT spending. In every industry, IT budgets often are flat or decreasing — while the need to produce at the highest level continues to grow. This is driving IT departments to reduce operating costs, thus freeing up resources that can be either redeployed to focus on driving innovation or returned to the bottom line.

SAP Solution Manager Capabilities and Potential Benefits

In an effort to help IT departments manage the challenges facing them, SAP recently released an updated version of SAP Solution Manager. SAP Solution Manager is a centralized solution management application that runs in a customer's SAP environment and facilitates the support of SAP and non-SAP systems and solutions. The new version includes expanded capabilities and functionality, especially in the following areas:

- ☒ **Business process documentation and monitoring.** SAP Solution Manager can serve as a single repository for standardizing and maintaining business processes across the enterprise. IT departments can utilize extensive functionality to define and document business processes and to monitor and modify them as business needs require.
- ☒ **Advanced testing functionality.** In the new version of SAP Solution Manager, users can define detailed test plans for updating, modifying, and adding business processes and additional functionality. Users can also use functionality within SAP Solution Manager to execute the test plans against the proposed changes and resolve any potential conflicts and issues before deployment into the production environment.
- ☒ **Real-time system monitoring.** SAP Solution Manager features real-time monitoring of all SAP and some non-SAP systems to help avoid critical issues that could disrupt day-to-day operations. Real-time monitoring allows IT departments to identify and resolve potential issues before they can affect the larger ecosystem and lead to business process downtime.
- ☒ **Root cause analysis.** The enterprise edition of SAP Solution Manager features additional root cause analysis functionality. These tools are used to diagnose and resolve problems when they occur, which can help reduce resolution time when serious issues do occur.
- ☒ **Change control management.** SAP Solution Manager features advanced change control management to help streamline and speed the ongoing customizations and modifications required for SAP and non-SAP solutions. SAP Solution Manager functionality can help IT departments respond more quickly to requests from line-of-business managers, and it can also simplify the implementation and integration of new functionality.

The additional functionality in the enterprise edition of SAP Solution Manager does require extensive configuration and setup for full utilization. However, enterprises that adopt all aspects of its capabilities can realize substantial improvements in their IT environment. Potential benefits from utilizing SAP Solution Manager include:

- ☒ **Increased efficiency and productivity.** IDC research shows that most organizations spend the majority of their IT resources maintaining their existing systems. By using the automated, proactive, and preventive functionality available in SAP Solution Manager, organizations can free up IT staff from routine and everyday tasks that are required to maintain the IT environment. This can lead to additional efficiency and productivity for the IT department as a whole.
- ☒ **Reduced overall risk in IT environment.** Most enterprises rely on IT to support mission-critical business processes in day-to-day operations. As a result, most IT departments are tasked with ensuring the availability and reliability of the technology underlying those business processes, regardless of the technology itself. Functionality in SAP Solution Manager, including change control management and root cause analysis, can help minimize critical system incidents and improve the reliability of software and hardware across the IT environment.
- ☒ **Faster response and resolution times.** When issues do arise, IT organizations must have the technology and processes to resolve problems in a timely manner. The root cause analysis functionality in SAP Solution Manager can help a busy IT department quickly diagnose and resolve issues in potentially critical situations.
- ☒ **Increased focus on innovation.** As mentioned previously, most enterprises focus the majority of their IT resources on maintaining existing systems. By utilizing the automated and proactive functionality in SAP Solution Manager, IT organizations can increase the efficiency and effectiveness of IT resources. This means that IT staff can focus less on maintaining existing systems and shift toward innovation and growth initiatives in IT that can enable business growth throughout the enterprise.
- ☒ **Lower total cost of ownership (TCO).** Although this metric can be difficult to track and quantify, more enterprises are looking to monitor and measure the total cost of ownership for enterprise software. If implemented correctly and used consistently throughout the enterprise, SAP Solution Manager functionality can help lower the overall TCO of enterprise software and hardware by improving IT staff efficiency, reducing overall risk, and reducing the number of high-severity system downtime issues.

BUSINESS VALUE OF SAP SOLUTION MANAGER

IDC interviewed seven SAP customers from North and South America that range in size from 5,000 to 100,000 employees. These companies have an average of 18 users per IT staff and an average of nearly 2,000 IT staff in total. Table 1 shows the demographics of this study.

TABLE 1

Demographics

Category	Average
Number of employees	53,286
Range of employees	5,000–100,000
Number of end users	35,524
Number of IT staff	1,959
Number of users per IT staff	18
Geography	North and South America
Industries	Technology, energy, manufacturing, agriculture, and health and beauty

Source: IDC, October 2009

Deployment

Companies in this study required between three and 12 months to fully deploy the SAP Solution Manager components used. While some companies utilized SAP consultants to assist in the deployment, others completed the implementation with in-house staff only. As one customer said, "We had different components go live at different times. The installation of the base system only took a couple weeks. We also implemented other parts — those took another seven months."

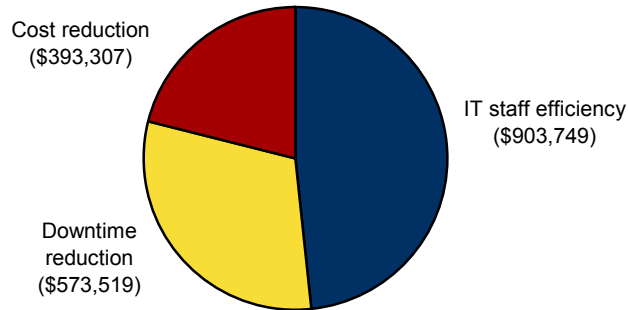
Another manager said, "We actually deployed it straight out of the box. We did not modify it at all. After that, we spent some time configuring and educating our people on it."

Benefits

In this study, benefits fall into three primary areas: increased IT staff efficiency, fewer hours of downtime, and reduced costs. These benefits and the customer experience since deploying SAP Solution Manager are discussed in greater detail in this section. Figure 1 shows the proportion of benefits. Table 2 shows the average annual investments at the total level (as shown in Figure 1) and also at the per 1,000 user level.

FIGURE 1

Average Annual Benefits of SAP Solution Manager



Total = \$1,870,576
Average annual investment = \$294,857

Source: IDC, October 2009

TABLE 2

Average Annual Benefits

	Average Total	Per 1,000 Users
IT staff efficiency	\$903,749	\$25,441
Downtime reduction	\$573,519	\$16,145
Cost reduction	\$393,307	\$11,072

Source: IDC, October 2009

IT Staff Efficiency

SAP Solution Manager had a strong impact on change management for the customers in this study. Previous change management solutions had tedious approval processes where IT organizations were forced to step through several approvals before changes could be finalized. But since the deployment of SAP Solution Manager, companies have simplified the process and limited the number of steps in the process. One customer estimated, "Our users are saving at least a half hour per day. Our old change management system had 42 approvers per change request. So, each of the 42 people had to execute an approval at each change. We've reduced those steps down to just one."

System monitoring has been improved, and changes are more easily submitted and traced in the system. This reduces the risk of an unauthorized change going into production, which can be an impetus for problems in the future. SAP Solution Manager has allowed companies to submit fewer changes per week; customers now prioritize changes and submit them in organized packages. One IT manager said, "We're actually managing our risk by submitting changes less frequently. Before, when we needed a change, we just pursued it until it was done. Now, we let the requests add up, and we organize them, package them, then submit them. Those packages go into the system about once every four to six weeks."

Prior to the SAP deployment, many customers relied on several solutions for system monitoring and are now able to monitor centrally through SAP Solution Manager. Often, the IT organization would be alerted to problems after they had already affected end users. One customer estimated that having the ability to determine that changes have been made correctly in the system "gives us a better understanding of what is going on in the business and helps with our monitoring. We have 20 people saving about 15 hours per week."

Workflow automation has allowed companies to automate analyzing and diagnosing the system. One customer estimated, "We would need between two and three more full-time equivalents [FTEs] if we did not have Solution Manager." Another SAP Solution Manager customer said, "Our people could not do their jobs without it. They would be logging into the system manually and doing changes all of the time. That would be 20% more work than they have now."

IT staff efficiency increases in change management, monitoring, and workflow management equal an average annual savings of \$878,609.

Auditing practices have been significantly improved since the deployment. Companies are not only saving time when conducting audits but also improving their level of compliance and reducing their risk of fiscal penalties. Central repositories are convenient for an IT organization because all of the data the organization needs is available in one place. An IT manager said, "Solution Manager has definitely helped because we have all of our documentation ready for reviews. We did not have to run around looking for everything. We recently had an FDA compliance review and we were able to easily walk those folks through the requirements showing that the configuration was done." On average, customers have realized average annual savings of \$25,140 by reducing the time required for auditing.

Downtime Reduction

Reducing downtime is typically a product of one or both of the following factors: lowering the total number of incidents that limit users' access to systems or applications and reducing the duration of incidents through improved mean time to repair (MTTR). IT organizations are avoiding production errors since the SAP Solution Manager implementation. As one manager said, "It's pretty obvious to users that we've been able to reduce problems. Before we were basically doing changes every week. But now, we're only doing them once every six weeks, so there are fewer incidents in the time in between." Another customer in the study estimated that between 15 and 20 incidents occurred during each change rollout. Since the

deployment of SAP Solution Manager, that number has been cut in half. In addition the customer said, "The incidents used to cause outages lasting as long as half an hour. Now we are down only about five to ten minutes."

SAP Solution Manager customers have reduced MTTR by an average of 3.25 hours per incident. As one customer said, "System monitoring has helped because before, we would have three to five people that got involved with the repair — and that could take an entire day." The reduction in MTTR and the increase in availability for users equal \$191,696 in average annual savings.

The impact of downtime varies from company to company. In most organizations, users can turn to other tasks during an incident or outage — that is, user productivity is rarely reduced to zero. In this study, the average user lost 52% of his or her productivity during a downtime incident. Reducing the length of incidents by an average of 27 hours equates to a user productivity benefit of \$381,823 annually.

Cost Reduction

Customers have been able to avoid new hires because the IT staff is more efficient since the SAP Solution Manager deployment. One IT manager said, "We leverage a lot of the functionality inside Solution Manager for monitoring and alerts in the infrastructure. I don't know how our team would work without it. There are 15 to 20 people over there, and if they had to do something manually, they would need \$100,000 in other tools and four more people."

Companies are now also able to avoid the expense of third-party tools. As one customer said, "Before, we used a third-party tool for system monitoring that was above and beyond the contracts and licenses that we already have. With Solution Manager, we are using something that is already included in our SAP package. We have reduced our tools expenses by 30%, which would be about \$50,000 to \$100,000 and will go up in the future."

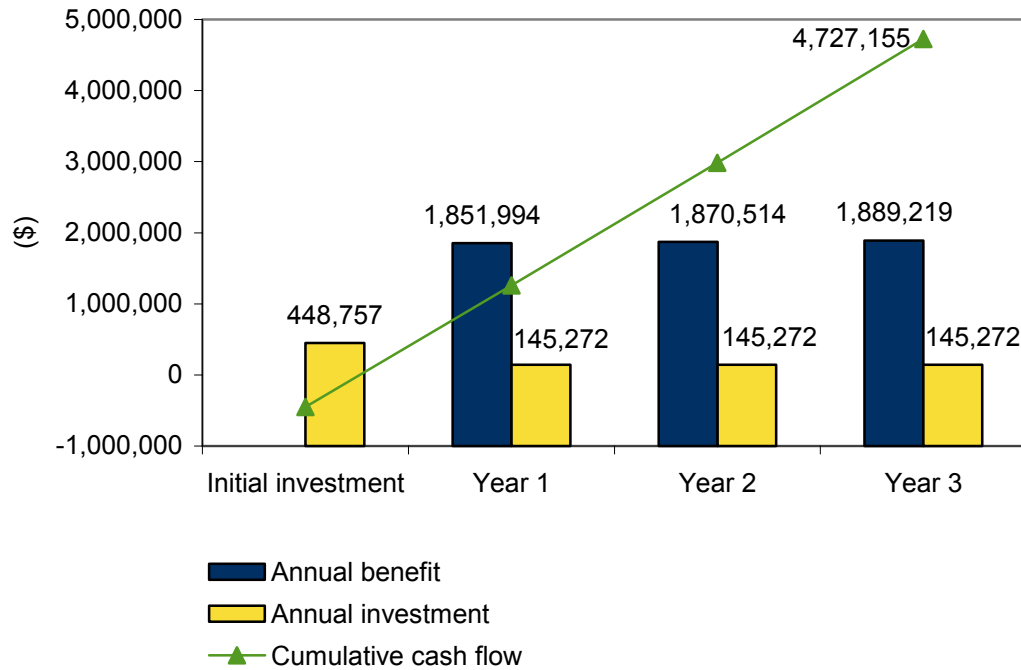
On average, customers in this study saved \$393,307 annually in avoided IT staff and external tools.

Benefit, Investment, and Cash Flow over Time

The annual benefit, investment, and cumulative cash flow over three years are shown in Figure 2. Benefits increase slightly over time as the IT staff becomes more proficient with the solution. Investments are highest in the year SAP Solution Manager is initially implemented. Once initial setup time and consulting costs are accounted for, investment in the following years declines and levels off over time. Ongoing investment includes standard hardware turnover rates and IT time required to maintain SAP Solution Manager.

FIGURE 2

Benefit, Investment, and Cash Flow



Source: IDC, October 2009

Table 3 shows the benefit, investment, and cumulative cash flow in terms of per 1,000 users. This data allows SAP customers to roll the level of potential benefit up to their company size.

TABLE 3

Benefit, Investment, and Cash Flow over Time per 1,000 Users

	Investment Year	Year 1	Year 2	Year 3
Annual benefit		\$52,134	\$52,655	\$53,182
Annual investment	\$12,633	\$4,089	\$4,089	\$4,089
Cumulative cash flow	(\$12,633)	\$35,412	\$83,978	\$133,070

Source: IDC, October 2009

IDC calculated the ROI and payback period based on a three-year analysis of the aggregated results. Table 4 displays the cumulative, discounted results. IDC uses a discounted cash flow analysis to account for the changing value of money over time and potential cash outlays required at the time of the initial purchase. Benefit includes the changes in IT efficiency, costs, and downtime discussed above. Investment includes not only the initial purchase price but also the internal staff time required to deploy SAP Solution Manager, consulting spend, costs for new servers, and FTEs required to maintain the solutions over time.

TABLE 4

Three-Year Aggregated ROI Results

	Average Total	Per 1,000 Users
Benefit (discounted)	\$4,489,438	\$126,378
Investment (discounted)	\$797,675	\$22,455
NPV	\$3,691,762	\$103,924
ROI	463%	
Payback	4.3 months	
Discount rate	12%	

Source: IDC, October 2009

In addition to calculating the aggregate ROI for all seven customers in this study, IDC examined the potential differences between customers using SAP Solution Manager in only two scenarios and customers using the solution in four or more scenarios. Three customers were using SAP in two scenarios (combinations of change request management, system monitoring, implementation and upgrade projects, and quality gate management). The ROI for these three customers was 250% with a payback period of 11.4 months.

Customers using SAP Solution Manager in four or more scenarios (combinations of change request management, quality gate management, implementation and upgrade projects, testing, business process and interface monitoring, and system monitoring) had an average ROI of 589% with a payback period of 2.6 months.

While SAP Solution Manager offers an attractive ROI when used in any number of scenarios, the return on each dollar spent increases as the solution is used more broadly. According to the data and the experiences of the participants in this study, using Solution Manager in more scenarios increases the number of hires avoided and boosts IT staff efficiency at a greater rate than using Solution Manager in fewer scenarios.

FUTURE/INDUSTRY OUTLOOK

Given the rapid pace of change and evolution in the enterprise IT environment and the increasing complexities of advanced technologies, IT managers have the unenviable task of managing their current assets and expanding innovative initiatives with fewer resources and reduced budgets. Day-to-day operations will need to be carefully monitored and managed in order to meet the requirements of reducing costs, decreasing downtime, and improving staff productivity. IT departments will look to automated tools and utilities to accomplish this goal, which can help when refocusing resources on innovation and business growth. IT managers will also be called upon to serve internal and external customers at a much higher level, increasing the need for tools, utilities, and applications that will help reduce the risk of system downtime and ensure business process continuity across the enterprise.

IDC also believes that enterprises will value tools and utilities that can integrate across the IT landscape with multiple software solutions and packages. As IT departments face increasingly heterogeneous environments and new layers of technology, applications that can interface with multiple software and hardware solutions will be more useful for comprehensive tracking and monitoring. IDC expects that as enterprises adopt these tools and utilities and use more of the functionality available, they could potentially see additional benefits across the IT environment.

CHALLENGES/OPPORTUNITIES

IDC believes that one of the biggest challenges facing SAP in support services is facilitating the adoption and utilization of all aspects of SAP Solution Manager among its customer base. Deploying, configuring, and fully populating SAP Solution Manager with the required information can be a time-consuming process for even the most accomplished IT department. IDC recommends creating tools and utilities that can help spread the adoption of SAP Solution Manager, such as templates and wizards that simplify complex tasks such as documenting business processes and configuring change request management functionality.

In addition, IDC believes that SAP should consider design changes to SAP Solution Manager that could help make the platform more easily adaptable to smaller tasks. The majority of IT managers have implemented multiple technologies throughout their environments and face increasing heterogeneity in the next three to five years. Making SAP Solution Manager more adaptable for an environment with multiple sources of hardware and software can help customers utilize the functionality that is most applicable for their technologies. Most interviewees IDC spoke with did not use all of the SAP Solution Manager functionality, but they found what they did use to be quite helpful.

IDC also believes that SAP should continue building out functionality to include non-SAP applications as part of the monitoring capabilities of SAP Solution Manager. As IT environments become increasingly complex and heterogeneous, IT departments will look for applications that can integrate with a variety of solutions across the IT landscape.

Finally, IDC recommends that SAP harness best practices and key lessons learned around implementing and utilizing SAP Solution Manager as part of the Run SAP methodology. As more and more customers adopt the guidelines in the Run SAP methodology, SAP Solution Manager content can be very useful to help increase adoption. This is especially true for partners, who are always looking for best practices to help with customer deployments.

CONCLUSION

The IT environment will continue to grow in complexity and sophistication over the next five years as more organizations deploy advanced technologies such as virtualization and unified communications. Maintaining existing enterprise hardware and software under these conditions can seem overwhelming, with complicated integration and support issues coupled with the need to ensure consistent availability of mission-critical business processes.

To maintain peak operating performance across the IT environment, enterprises should consider deploying solution management applications that can facilitate the support of systems across an IT landscape. Applications such as SAP Solution Manager can be very useful for IT departments considering a centralized solution. By utilizing these tools, enterprises can maintain and support existing infrastructure more efficiently, resulting in potential cost savings and the ability to shift resources to initiatives focused on innovation and competitive advantage.

APPENDIX

ROI Methodology

IDC's ROI methodology measures the efficiency of SAP Solution Manager and uses the findings to calculate ROI for the deployed management software. The method does this in three steps:

1. **Ascertain the investment in the purchase, implementation, and deployment of the solution.** It is important to estimate not only the initial purchase cost of software but also the required implementation, integration, and training costs. To measure the total deployment investment required, IDC is careful to include questions about not only the cost of purchasing and setup of the software but also the integration and the annual hardware/software maintenance expenses.
2. **Measure the cost savings and gains in productivity, availability, and efficiency achieved using the solution.** Portions of the interviews are dedicated to the discovery of cost savings, including both "hard" IT costs, such as savings in software rental and maintenance fees, and "soft" costs, including IT staff productivity, IT management efficiency, and application availability.
3. **Calculate the payback period and ROI for SAP Solution Manager.** Based on the interview data, IDC calculates the average payback period and rate of return based on the overall cost savings and efficiency resulting from the investments in the solution.

ROI and Payback Period Calculation Assumptions

IDC bases the payback period and ROI calculations on a number of assumptions:

- ☒ Time values are multiplied by burdened salary (salary + 28% for benefits and overhead) to quantify efficiency and manager productivity savings.
- ☒ Downtime values are a product of the number of hours of downtime multiplied by the number of users affected.
- ☒ Lost productivity is a product of downtime multiplied by burdened salary.
- ☒ The net present value of the three-year savings is calculated by subtracting the amount that would have been realized by investing the original sum in an instrument yielding a 12% return to allow for the missed opportunity cost. This accounts for both the assumed cost of money and the assumed rate of return.

Further, because IT solutions require a deployment period, the full benefits of the solution are not available during deployment. To capture this reality, IDC prorates the benefits on a monthly basis and then subtracts the deployment time from the first-year savings.

Copyright Notice

External Publication of IDC Information and Data — Any IDC information that is to be used in advertising, press releases, or promotional materials requires prior written approval from the appropriate IDC Vice President or Country Manager. A draft of the proposed document should accompany any such request. IDC reserves the right to deny approval of external usage for any reason.

Copyright 2009 IDC. Reproduction without written permission is completely forbidden.